

COMMONWEALTH OF AUSTRALIA

Patents Act 1952-1973

CONVENTION APPLICATION FOR A PATENT

(a) Insert full name(s) of applicant(s).

I/We (a) ANTON DAVID LUTOLF 84789/75

(b) Insert address(es) of applicant(s)

of (b) Rue de Lausanne, Cugy, Switzerland

hereby apply for the grant of a Patent for an invention entitled

(c) Insert title of invention.

(c) IMPROVEMENTS RELATING TO DISH-WASHING MACHINES

which is described in the accompanying complete specification. This application is a convention application and is based on the application or applications for a patent or patents or similar protection made in the following country or countries on the following date or dates:

(d) Insert country in which first basic application was made.

in (d) Switzerland on (e) 24 September 1974 No. (f) 12 900/74

(e) Insert date(s) of basic application(s).

in (d) on (e) No. (f)

(f) Insert number of basic application

in (d) on (e) No. (f)

in (d) on (e) No. (f)

in (d) on (e) No. (f)

in (d) on (e) No. (f)

My/Our address for service is care of ARTHUR S. CAVE & CO., Patent and Trade Mark Attorneys, 1 Alfred Street, Sydney, New South Wales, Australia 2000.

(g) Insert date Form signed.

Dated this (g) 11th day of SEPTEMBER, 19 75

(h) Signature(s) of applicant(s). If a company to be executed in a manner binding on the company (according to its Articles of Association)

(h) ANTON DAVID LUTOLF

By His Patent Attorneys,

ARTHUR S. CAVE & CO.

(i) Seal, if any.

To:

The Commissioner of Patents,
COMMONWEALTH OF AUSTRALIA
ARTHUR S. CAVE & CO.
PATENT AND TRADE MARK ATTORNEYS
SYDNEY

AUSTRIAN

18 SEP 1975

PATENT OFFICE

G. F. Chodziesner

DECLARATION IN RESPECT OF A CONVENTION APPLICATION UNDER
PART XVI FOR A PATENT OR PATENT OF ADDITIONTo be signed by the applicant (or in the case of a Company, the
person or persons authorised by the Company)

54789/75

In support of the Convention application made for a patent ~~for an invention entitled~~
IMPROVEMENTS RELATING TO DISH-WASHING MACHINES

(a) (b) ANTON DAVID LUTOLF

(c) Rue de Lausanne, Cugy, Switzerland

I do solemnly and sincerely declare as follows:—

1. I am ~~the~~ the applicant ~~(s)~~ for the patent ~~for an invention entitled~~
~~(OR, IN THE CASE OF AN APPLICATION BY A BODY CORPORATE)~~
 I am ~~are~~ authorised by ~~the~~ the applicant for the patent ~~for an invention entitled~~
 on its behalf.

2. The basic application ~~(s)~~ as defined by Section 141 of the Act was ~~made~~ made in the following
country or countries on the following date ~~(s)~~ namely:—

in (d) Switzerland on (e) 24 September 1974 No. (f) 12.900/74
 by (g) HEINY BERTSCHI
 in (d) on (e) No. (f)
 by (g)
 in (d) on (e) No. (f) 12 SEP 1975
 by (g)

3. I am ~~the~~ the actual inventor ~~(s)~~ of the invention referred to in the basic application.
~~(OR WHERE A PERSON OTHER THAN THE INVENTOR IS THE APPLICANT)~~3. (h) ~~of the~~
 of (i)I declare the actual inventor ~~(s)~~ of the invention and the facts upon which I am ~~entitled~~ entitled to make
the application are as follows:(k) I am the assignee of the said invention from the
said HEINY BERTSCHI4. The basic application ~~(s)~~ referred to in paragraph 2 of this Declaration was ~~the~~ the first
application ~~(s)~~ made in a Convention country in respect of the invention the subject of the application.

Declared at Cugy, Switzerland this 3rd day of SEPTEMBER, 19 75

Anton David Lutolf

(Signature of Declarant)

The Commissioner of Patents,
COMMONWEALTH OF AUSTRALIAARTHUR S. CAVE & CO.
PATENT AND TRADE MARK ATTORNEYS
SYDNEY

AUSTRALIA
PATENTS ACT 1952-1973

Form 10

COMPLETE SPECIFICATION
(ORIGINAL)

FOR OFFICE USE

Application Number: 84789/75
Lodged: 12/9/75

~~Class~~

~~Int.~~ Class
25-5

Int CI A47L 15/16, A47L 15/42.
Complete Specification Lodged: 12/9/75
Accepted: Lapsed Sec 47C(6)
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Related Art:

TO BE COMPLETED BY APPLICANT

Name of Applicant: ANTON DAVID LÜTOLF

Address of Applicant: Rue de Lausanne, Cugy, Switzerland

Actual Inventor: ANTON DAVID LÜTOLF

AUSTRALIAN

12 SEP 1975

PATENT OFFICE

Value of \$30

Pat. Officer: AT

Address for Service: C/- ARTHUR S. CAVE & CO., Patent and Trade Mark
Attorneys of Gold Fields House, 1 Alfred Street, Sydney, New South
Wales, 2000, Australia
Complete Specification for the invention entitled

IMPROVEMENTS RELATING TO DISH-WASHING MACHINES

The following statement is a full description of this invention, including the best method of
performing it known to me:—

OT 14/7/77

5
The invention relates to a method for operating a dish-washing machine which comprises a preliminary washing, washing and rinsing stages as well as a dish-washing machine with a crockery basket which remains at the same place in the washing area during the washing operation and a spray system which may be selectively connected to the pre-wash water and washing water tank as well as a rinsing water system, in which case both tanks are located below the washing area and are open at the top.

10
Dish-washing machines are known in which the crockery basket travels through a tunnel-like washing area with separate washing stations. However, there are also dish-washing machines in which the crockery basket always remains at the same place during the washing process or rotates about its own axis on the spot.

15
Many dish-washing machines operate in three stages, i.e. firstly the crockery is pre-washed in an unexact manner in which case most of the food is removed, then the actual washing process takes place and finally the crockery is rinsed with clean water. These three processes require a considerable quantity of water, which affects the costs, in particular since the necessary washing and decalcifying additives have to be added at the time of each washing process.

20
25
It is the object of the invention to save on the water consumption by using the same water several times, but dispensing with a tunnel through which the crockery

passes by being drawn mechanically therethrough.

5 This is achieved according to the invention in the operation of a dish-washing machine of the afore-mentioned type due to the fact that the interchangeable crockery basket remains at the same point in the washing area and that after being used the water from the rinsing stage is supplied to the washing water tank to regenerate the washing water and the re-used washing water is supplied to the preliminary washing water tank to regenerate the preliminary washing water.

10 The dish-washing machine according to the invention is characterised in that the preliminary washing water tank and the washing water tank are each connected by a non-return valve and a water pump to the single spray system or the two water tanks are each connected by a water pump to one of two spray systems, that located above the two tanks and below the outlet from the washing area is a tiltable guidechannel, which guides the water into one of the two tanks and that means are provided which tilt the guide channel towards the tank from which water is removed for the preliminary washing or washing of the crockery.

15 One embodiment of a dish-washing machine according to the invention is shown diagrammatically as an example in the drawing.

20 The housing 1 forms the washing area in which the full crockery basket 2 is inserted. The pipe system with the sprays is designated by the reference numeral 3. In

addition to the spray system 3, the crockery basket is also surrounded by a pipe system 4 with a supply of fresh water. The tank 5 serves to receive the washing water and is connected by the pipe 55 to the spray system 3. The overflow 50 opens into the tank 7. The pump 6 and non-return valve 60 are located in this water circuit 5, 55. The tank 7 serves as a reserve tank for the preliminary washing water and is connected by the pipe 77 to the spray system 3. The overflow 70 forms the outlet for the dish-washing machine. The pump 8 and non-return valve 80 are arranged in this water circuit 7, 77.

Located below the outlet 10 from the housing 1 is the tiltable guide channel 9, on whose arms are suspended the two disc-like baffles 90 and 99. The disc 90 is suspended in the pipe system 55 of the washing water, the disc 99 in the pipe system 77 of the preliminary washing water.

The method of operation of the afore-described dish-washing machine is as follows : the machine is shown in the position of the preliminary wash or preliminary rinse. The full crockery basket 2 is inserted. The pump 8 operates and conveys preliminary washing water from the tank 7 by way of the pipe 77 and the non-return valve 80 to the spray system 3, where it is sprayed, since the pipe 55 is closed off with respect to this water by the non-return valve 60. Due to the flow between the tank 7 and pump 8, the disc 99 is drawn downwards. The guide channel 9 tilts into the position shown. The dirty water leaving the outlet 10 is guided through the guide channel to the tank 7.

After the preliminary washing, the pump 8 is stopped and the pump 6 started. The latter conveys water from the tank 5, to which a detergent may be previously added - through the pipe 55 and the non-return valve 60 to the spray system 3. Penetration of the water into the pipe 77 is prevented by the non-return valve 80. The water flow between the tank 5 and pump 6 draws the disc 90 downwards, the guide channel 10 tilts about its axis 0, so that the water flowing from the outlet 10 is guided into the tank 5 (washing stage). After stopping the pump 6, the guide channel 9 remains in its position, since the centre of gravity of the channel located above the axis of rotation 0 assist the channel in remaining in the position adopted. Fresh water is now supplied to the pipe system 4 to initiate the rinsing stage. The crockery is sprayed by the spray heads of this system. Water flows from the outlet 10 and is guided by the guide channel 9 to the tank 5. The latter is filled to excess and the excess water, i.e. the surface water which is dirtiest passes over the partition dome 50 into the tank 7 with the preliminary washing water. The washing water in the tank 5 is simultaneously regenerated by the rinsing water flowing therein. Due to this, the tank 7 is also filled to excess with the preliminary washing water so that the dirty water located on the surface is discharged through the outlet 70. One thus achieves regeneration of the preliminary washing water by the washing water, which may possibly also contain detergent.

In place of a single spray system 3, the washing machine may have two independent spray systems, one system being connected to the washing water tank 5 and the other system to the preliminary washing water tank 7 by way of a water pump 6 or 8 respectively. In this case, the non-return valve 60, 80 may be dispensed with.

CLAIMS

The claims defining the invention are as follows:

1. A method of operating a dish-washing machine, comprising a preliminary washing operation, a main washing operation and an operation, wherein an interchangeable crockery basket is stationarily located in the washing area and, after being used, the water from the rinsing stage is supplied to a main washing water tank to regenerate the washing water and the re-used washing water is supplied to a preliminary washing water tank to regenerate the preliminary washing water.

2. A method as claimed in claim 1, wherein the water for the rinsing stage is taken from the fresh water pipe system.

3. A dish-washing machine comprising a crockery basket which is stationarily located in the washing area during the washing operation and one or two spray systems which are connected selectively to the preliminary washing water and the washing water tank and a rinsing water system, both tanks being located below the washing area and open at the top, wherein the preliminary washing water tank and washing water tank are respectively connected by a non-return valve and a water pump to the individual spray system or the two water tanks are connected by a water pump to one of the two spray systems, and located above the two tanks and below the outlet of the washing area is a tiltable guide channel which guides the water into one of the two tanks and means are provided which tilt the guide channel towards the tank from which water

is removed for the preliminary washing or washing of the crockery.

4. A dish-washing machine according to claim 3, wherein located respectively in the pipes between the tanks and the spray system is a disc, each disc being connected by a lever to one side of the guide channel and the discs moving in their pipe according to the flow direction and causing the guide channel to tilt.

5. A dish-washing machine according to claim 3 or 4, wherein the washing water tank comprises an overflow to the preliminary washing water tank and the latter comprises an overflow to the outlet of the dish-washing machine.

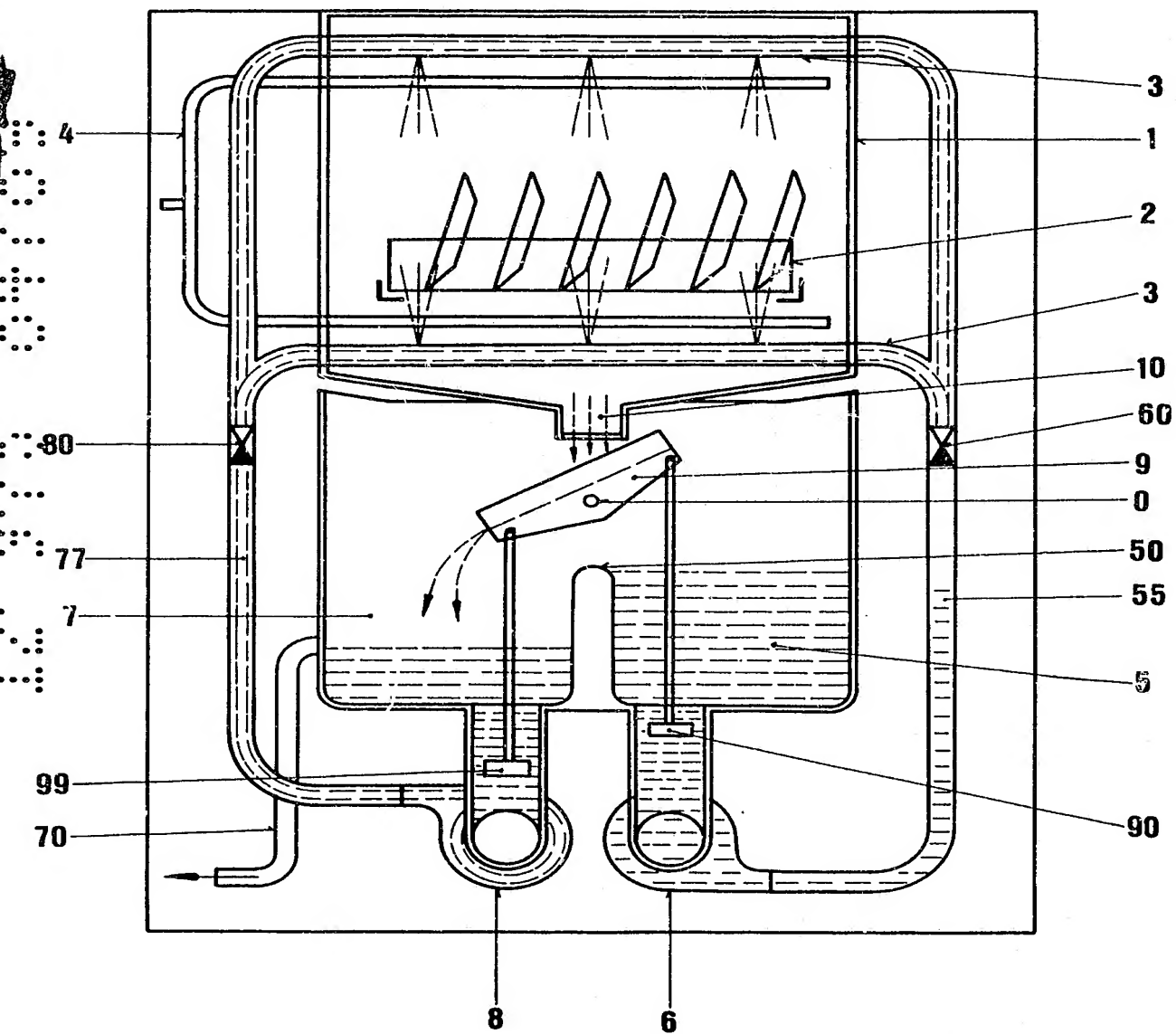
6. A method of operating a dish-washing machine, substantially as herein described with reference to the accompanying drawing.

7. A dish-washing machine substantially as herein described with reference to and as illustrated in the accompanying drawing.

DATED this 11th day of September, 1975.

ANTON DAVID LÜTOLF,
By His Patent Attorneys,
ARTHUR S. CAVE & CO.

DRAWINGS



END